Install vagrant and config the system.

Put the vagrantfile into the root folder (…pa3)

In windows, open the command line, go to the root (…pa3)

Type “vagrant up”, login to the fedora.

```
[vagrant@localhost /]$ cd /vagrant
[vagrant@localhost vagrant]$ ls
 01   04   07   10   13   bin          output.pdf                    Vagrantfile
 02   05   08   11   14   design.pdf   'Performance and problems.pdf'   Vagrantfile.bak
 03   06   09   12   15   Manual.pdf   src                           verification.pdf
[vagrant@localhost vagrant]$ _
```

Starting control

Type “cd /vagrant”, we are in the root directory.

Go to the /bin folder

Type “rmiregistry &” to start rmi registry

```
[vagrant@localhost vagrant]$ cd bin
[vagrant@localhost bin]$ rmiregistry &
[1] 1568
[vagrant@localhost bin]$
```

Go back the root folder

Start control by typing “java -cp bin InitControlImp”

Turn on the push option by typing “pushON”.

Starting peers

Open new windows command line

Go to the root folder and type “vagrant ssh”

Go to the root folder by typing “cd /vagrant”

Type “java -cp bin PeerImp 01” to start peer 01

```
D:\pa2>vagrant ssh
Last login: Wed Apr  1 02:51:02 2020
[vagrant@localhost ~]$ cd /vagrant
[vagrant@localhost vagrant]$ java -cp bin PeerImp 01
Peer Ready
Usage:
  ls                - List all sharing files.
  search <filename>     - Search file on Indexing Server.
  test1     - Performance test: search for 200 times.
  retrieve <location> <filename>           - Download file.
```

Start super peers first (peer 01-03)

```
D:\pa2>vagrant ssh
Last login: Wed Apr  1 02:51:02 2020
[vagrant@localhost ~]$ cd /vagrant
[vagrant@localhost vagrant]$ java -cp bin PeerImp 01
Peer Ready
Usage:
  ls                - List all sharing files.
  search <filename>     - Search file on Indexing Server.
  test1     - Performance test: search for 200 times.
  retrieve <location> <filename>           - Download file.
```

Start leaf nodes (peer 11, 14 and 15)

```
D:\pa2>vagrant ssh
Last login: Wed Apr  1 03:02:43 2020 from 10.0.2.2
[vagrant@localhost ~]$ cd /vagrant
[vagrant@localhost vagrant]$ java -cp bin PeerImp 11
Leaf node
01
Initializing Peer 11
Server List Updated
Peer Ready
Usage:
  ls                - List all sharing files.
  search <filename>     - Search file on Indexing Server.
  test1     - Performance test: search for 200 times.
  retrieve <location> <filename>           - Download file.
```